

CLAIMS

1. A covering for insulation comprising:
a central layer;
a polymer extrusion layer disposed on each side of the central layer;
and
two structures, one structure affixed to each polymer extrusion layer, each structure comprising alternating layers of a metal containing foil and a puncture resistant polymer film.
2. The covering as recited in claim 1, wherein at least one layer of a metal containing foil in each said structure comprises a sheet of aluminum foil.
3. The covering as recited in claim 1, wherein at least one layer of puncture resistant polymer film in each said structure comprises a polyester film.
4. The covering as recited in claim 1, wherein the central layer comprises a woven fabric.
5. The covering as recited in claim 1 wherein the central layer is formed of polyethylene.
6. The covering as recited in claim 1, wherein the central layer is formed of a non-woven fiberglass material.
7. The covering as recited in claim 1, wherein the extrusion is formed of a low density polyethylene.
8. The covering as recited in claim 1, wherein the covering is sufficiently rigid to retain a shape once formed into that shape, and wherein the covering may be cut using a hand-held implement with a sharp edge.

9. The covering as recited in claim 1, wherein the covering has a total thickness of no greater than about 350 microns.

10. The covering as recited in claim 1, wherein at least one of said structures comprises three layers of a metal containing foil and two layers of a puncture resistant polymer film, at least one layer of a metal containing foil being disposed on an outer surface of the covering.

11. The covering as recited in claim 10, wherein with respect to said at least one structure, an outer layer of a metal containing foil is approximately 25 microns in thickness, and wherein all of the other layers of a metal containing foil are approximately 9 microns in thickness, and wherein the layers of a puncture resistant polymer film are approximately 23 microns in thickness.

12. The covering as recited in claim 1, wherein at least one of said structures comprises two layers of a metal containing foil having a layer of a puncture resistant polymer film disposed therebetween.

13. The covering as recited in claim 12, wherein with respect to said at least one structure, each layer of a metal containing foil is approximately 25 microns in thickness, and wherein the layer of a puncture resistant polymer film is approximately 23 microns in thickness.

14. A weather seal for use on exposed surfaces comprising:
a first outer layer of aluminum foil, said first layer having an outer surface and an inner surface;
a first layer of polyester bonded to the inner surface of the first outer layer;
a second layer of aluminum foil bonded to said layer of polyester ;
a layer of fabric;

a first layer of a polymer extrusion bonding said second layer of aluminum foil to said layer of fabric and having a melting temperature lower than a melting temperature of said layer of fabric;

a third layer of aluminum foil;

a second layer of a polymer extrusion bonding said fabric layer to said third layer of aluminum foil, and having a melting temperature below the melting temperature of said fabric layer;

a second layer of polyester bonded to said third layer of aluminum foil;
and

a fourth layer of aluminum foil bonded to said second layer of polyester.

15. The covering as recited in claim 14, further comprising a fifth layer of aluminum foil and a third layer of polyester disposed between said first and second layers of aluminum foil, and a sixth layer of aluminum foil and a fourth layer of polyester disposed between said third and fourth layers of aluminum foil.

16. The covering as recited in claim 15, wherein said second, third, fourth, fifth and sixth layers of aluminum foil have a thickness of no greater than about 9 microns.

17. The covering as recited in claim 14, wherein said first and second layers of polyester have a thickness of no greater than about 23 microns.

18. The covering as recited in claim 14, wherein said fourth layer of aluminum foil is covered on a side opposite of said second layer of polyester with a layer of a pressure sensitive adhesive.

19. The covering as recited in claim 14, wherein each layer of aluminum foil has a thickness of no greater than about 25 microns and wherein each layer of polyester has a thickness no greater than about 23 microns.

20. A weather seal for covering exposed insulation surfaces on fluid conduits, said weather seal comprising:

a central fabric layer having a pattern; and

two structures, one structure bonded to each side of said central fabric layer, each said structure comprising multiple alternating layers of a metal foil and a puncture resistant polymer bonded together with an adhesive;

said weather seal being manually bendable into a desired configuration, said weather seal retaining the desired configuration once a manual force is removed, and said weather seal being manually cutable with a hand-held implement.

21. The weather seal as recited in claim 20, further comprising a polymer extrusion disposed on either side of the central fabric layer for bonding the two structures to the central fabric layer.

22. The weather seal recited in claim 20, having a puncture resistance of at least 40 kilograms as measured in accordance with ASTM D-1000 and a tear strength of at least 7.60 kilograms as measured in accordance with ASTM D-624.

23. The weather seal as recited in claim 20, wherein a total thickness of the weather seal does not exceed about 350 microns.